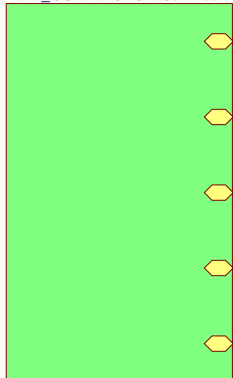
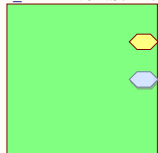


NPN_CONNECTOR.SchDoc 3

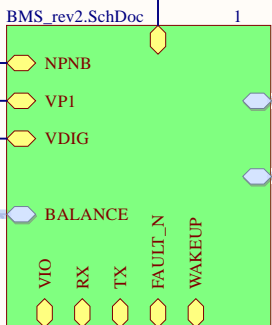


CELL_BALANCE.SchDoc 2

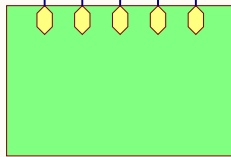


▲ depopulate all components of unused cells and short zener (with jumpers or 1206 zero ohm)

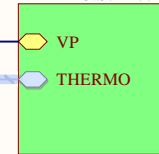
▲ when chaining float FAULT_N ground WAKEU_UP short RX to VIO float TX



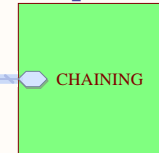
Serial.SchDoc 6



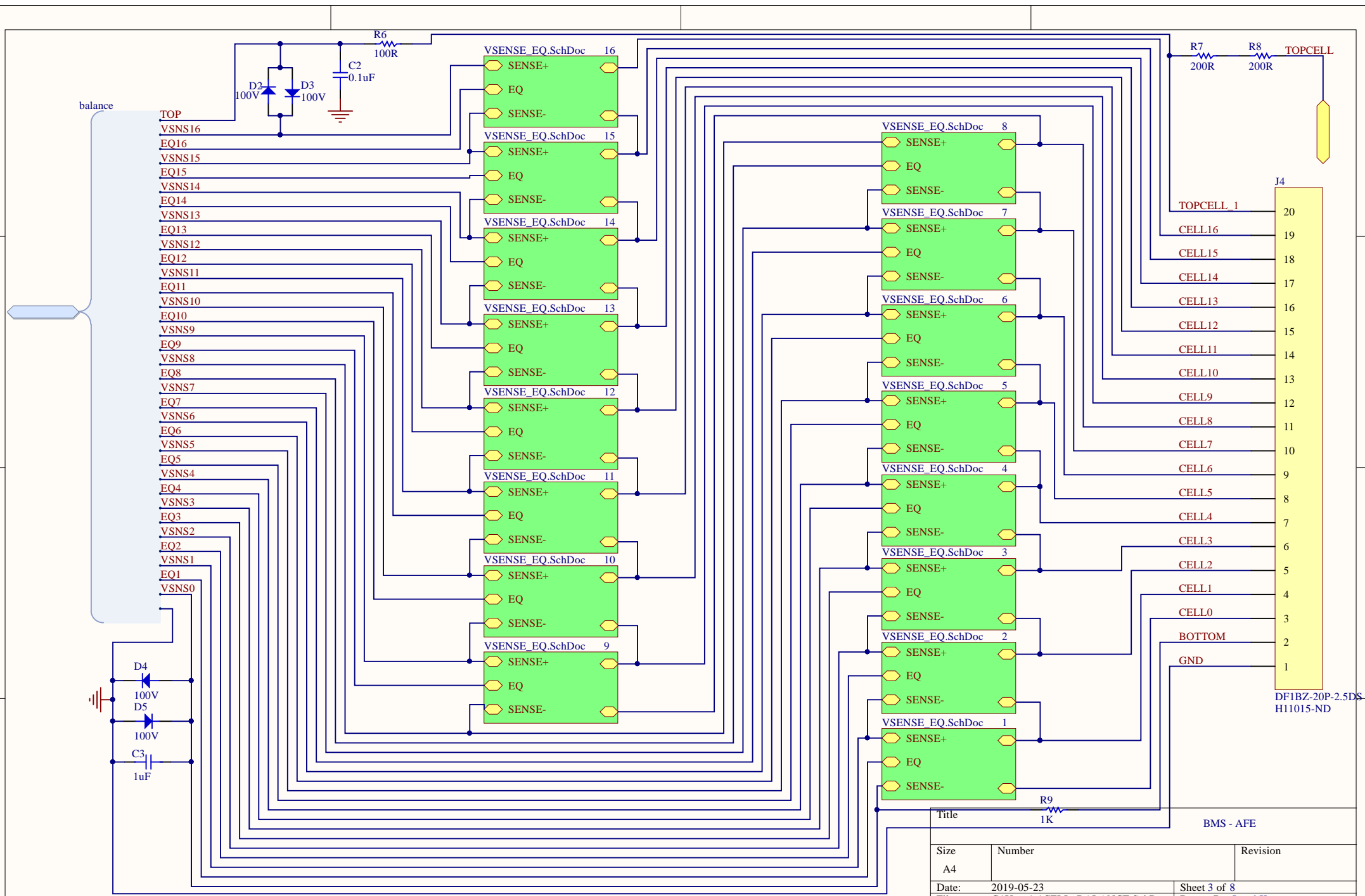
THERMO.SchDoc 4



DAISY_CHAINING.SchDoc 5

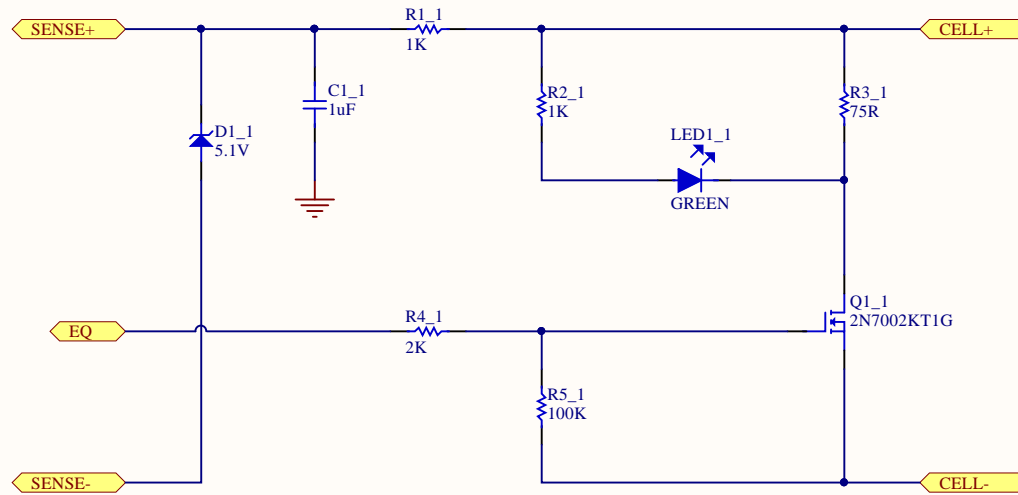


Title BMS - AFE		
Size A4	Number	Revision
Date:	2019-05-23	Sheet 1 of 8
File:	C:\Users\...\BMS.SchDoc	Drawn By: Jarod Krane

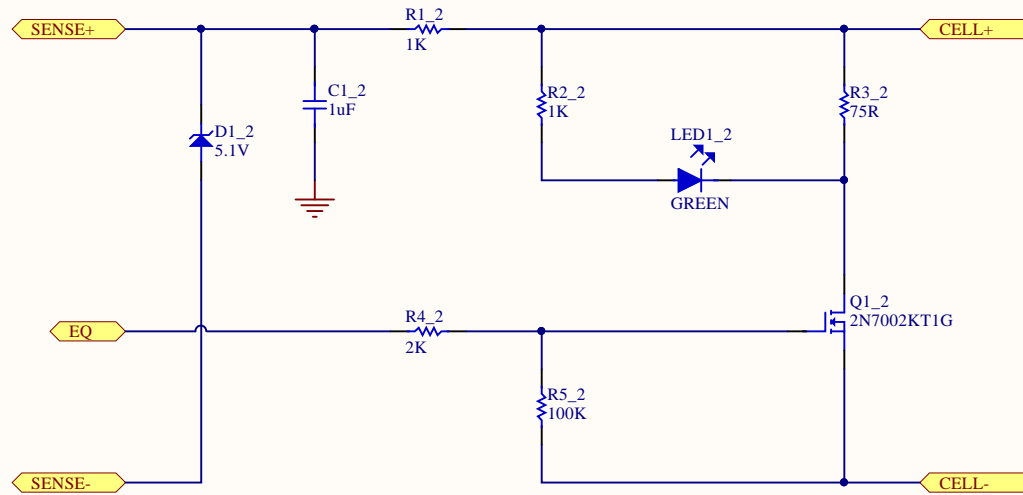


DF1BZ-20P-2.5SDS
H11015-ND

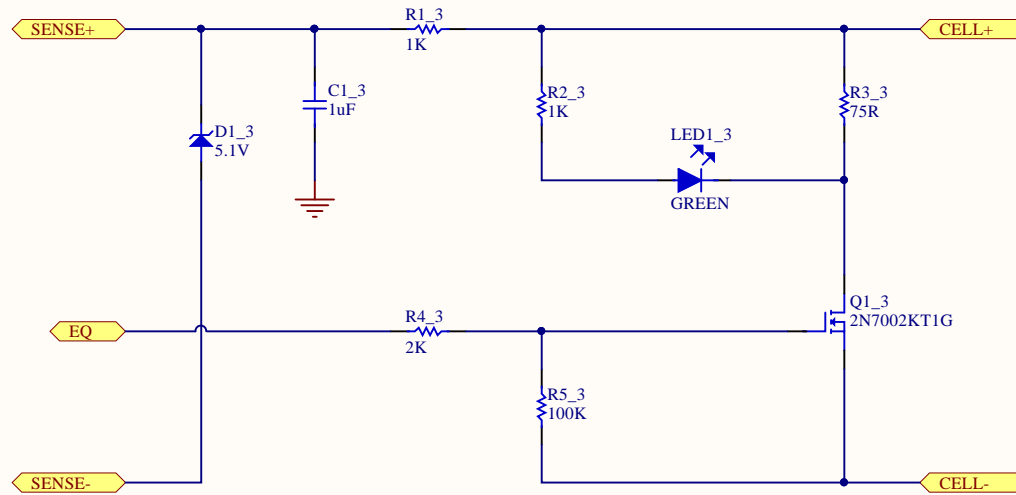
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Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 3 of 8
File:	C:\Users\...\CELL_BALANCE.SchDoc	Drawn By: Jarod Krane



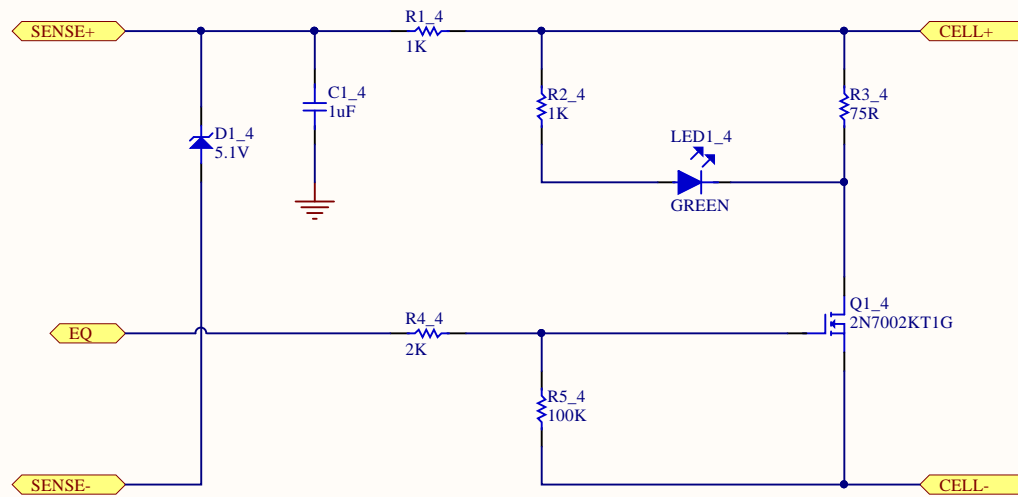
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BMS - AFE		
Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 4 of 8
File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



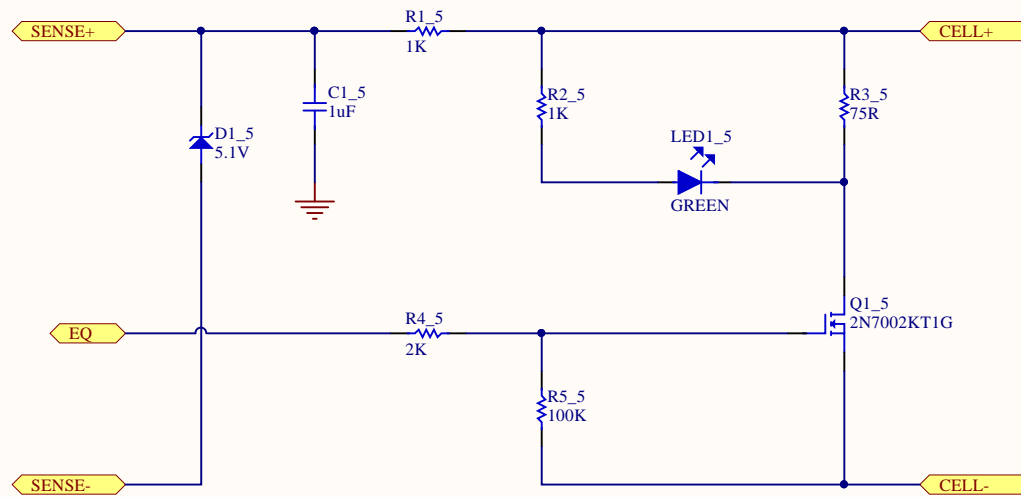
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Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 4 of 8
File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



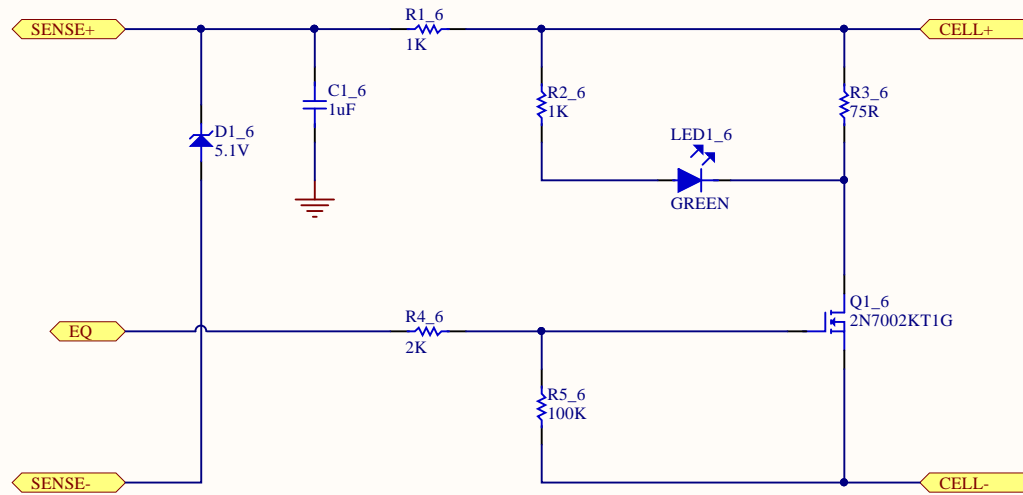
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BMS - AFE		
Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 4 of 8
File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



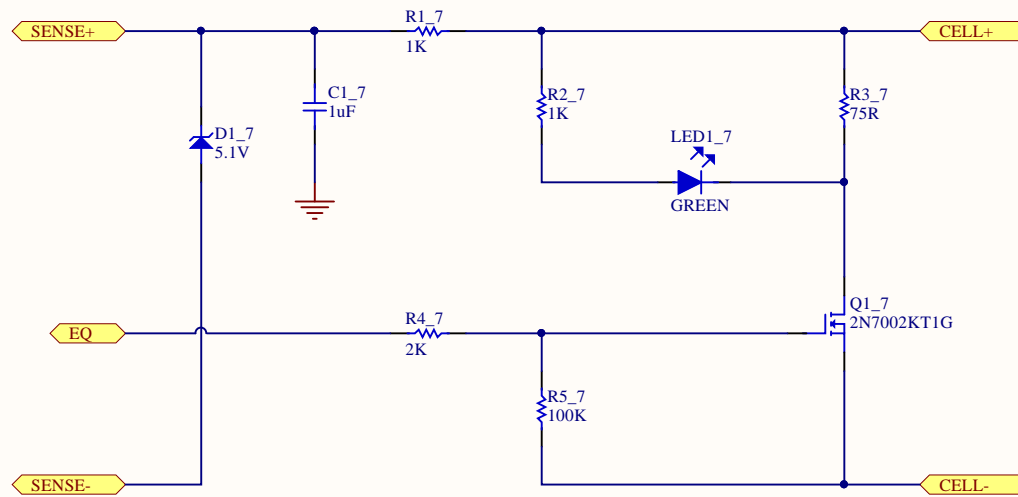
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BMS - AFE		
Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 4 of 8
File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



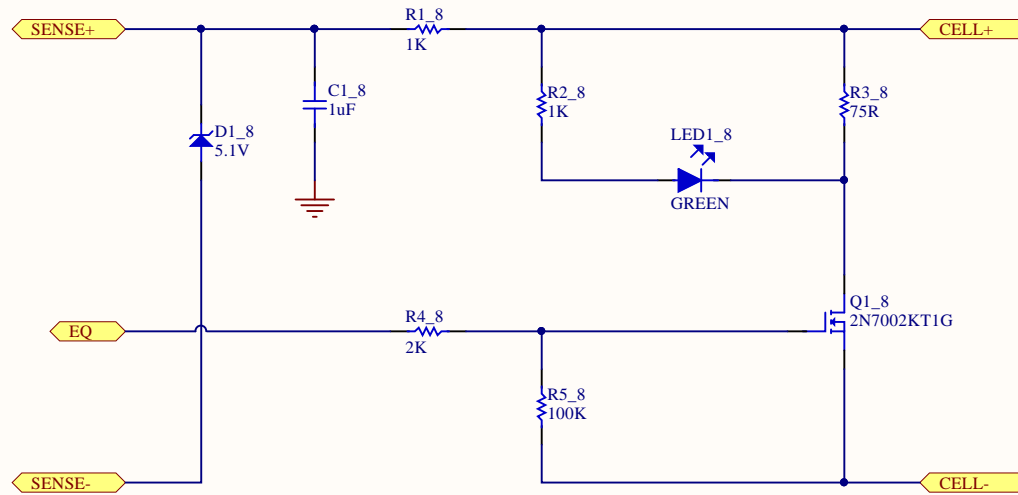
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Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 4 of 8
File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



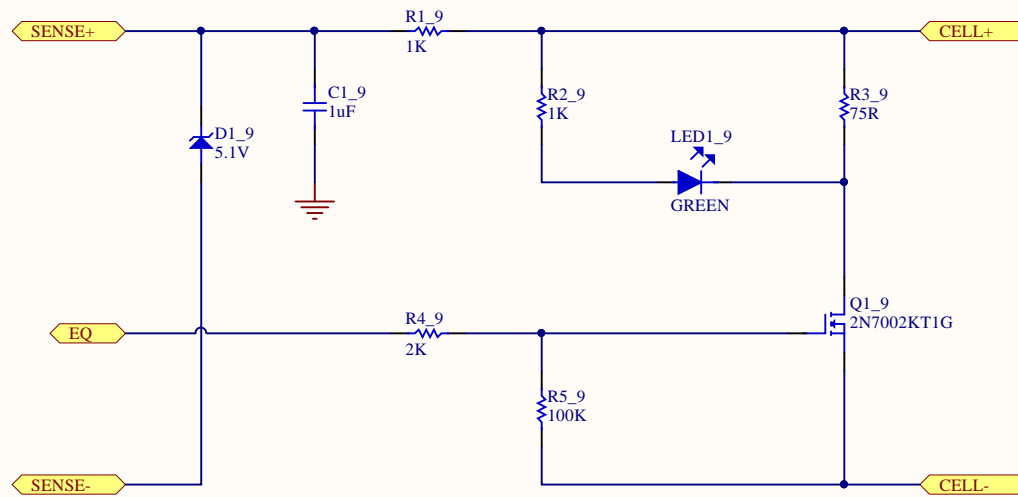
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Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 4 of 8
File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



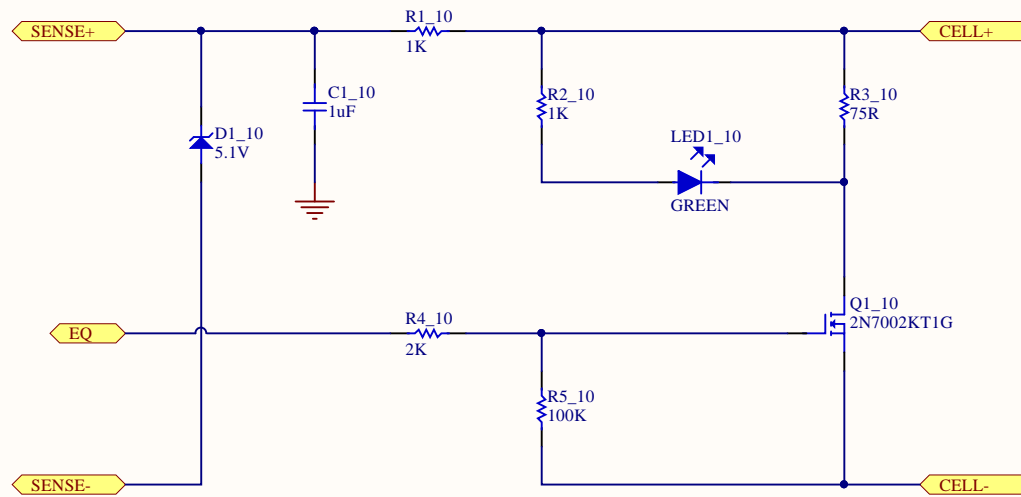
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Size	Number	Revision
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File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



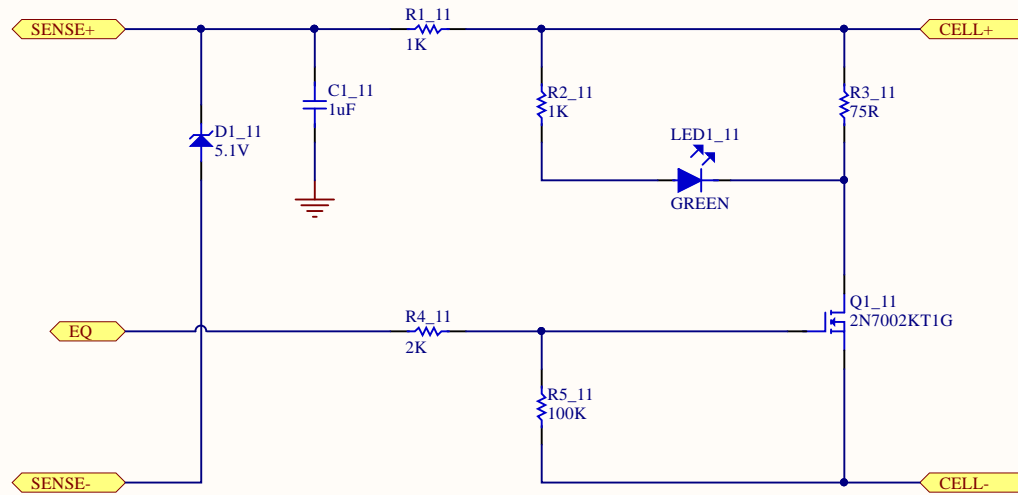
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File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



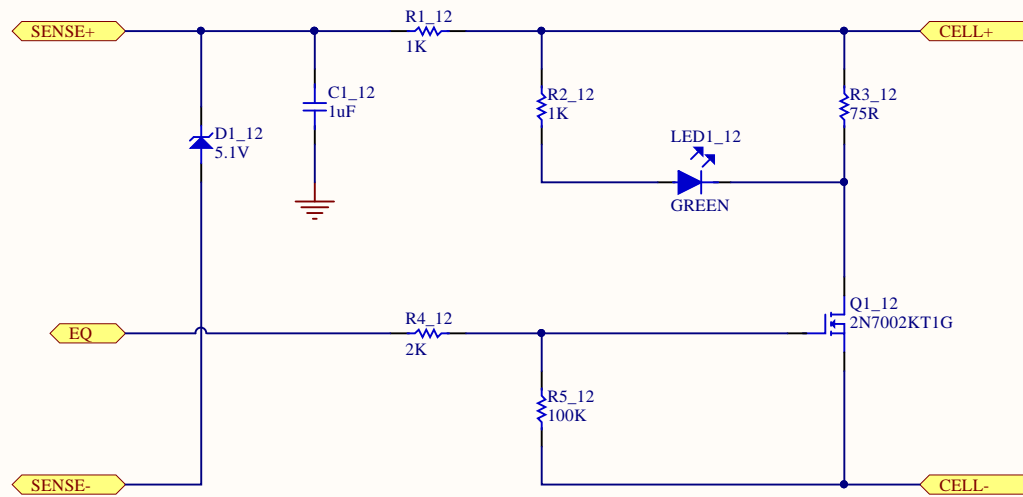
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Size	Number	Revision
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File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



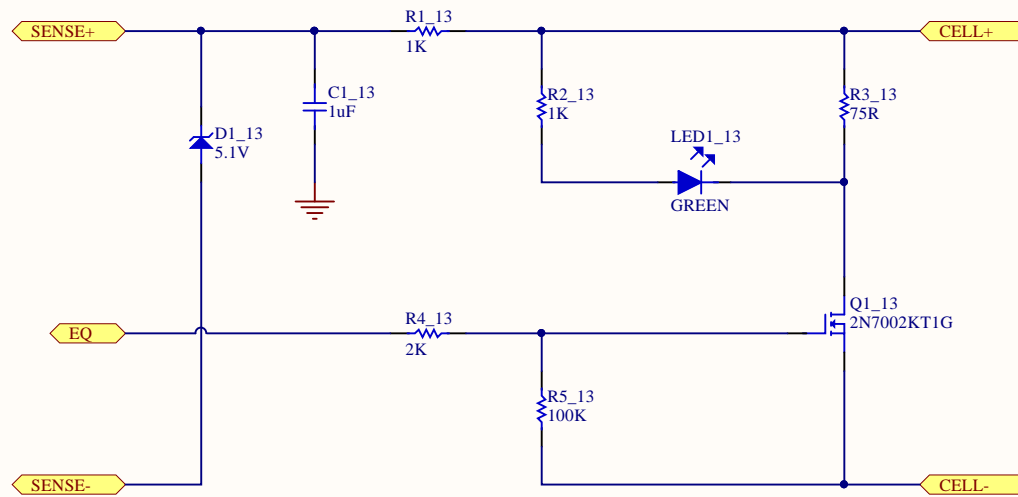
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Size	Number	Revision
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File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



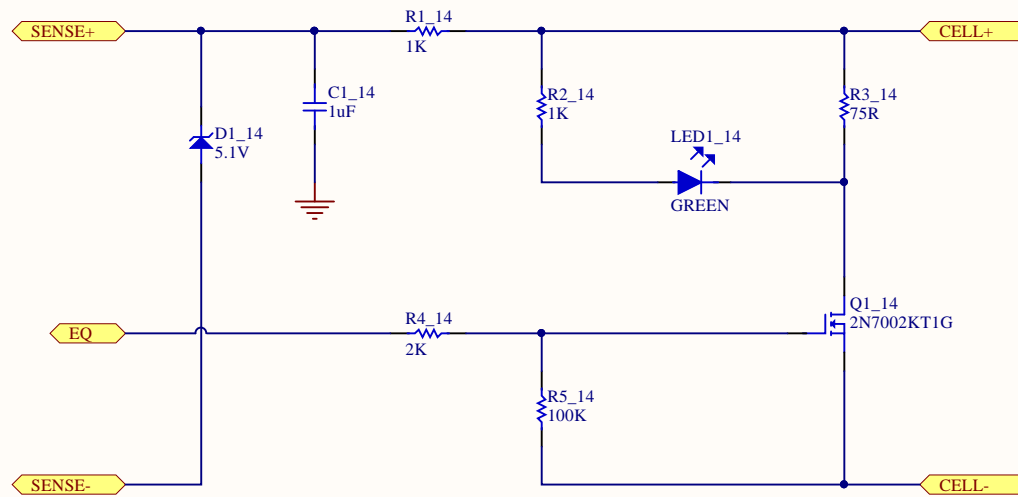
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BMS - AFE		
Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 4 of 8
File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



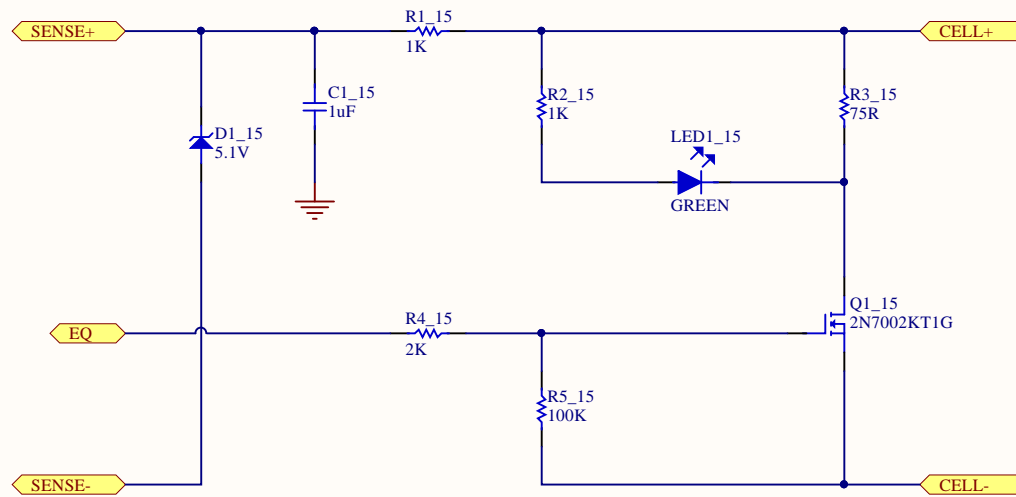
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BMS - AFE		
Size	Number	Revision
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File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



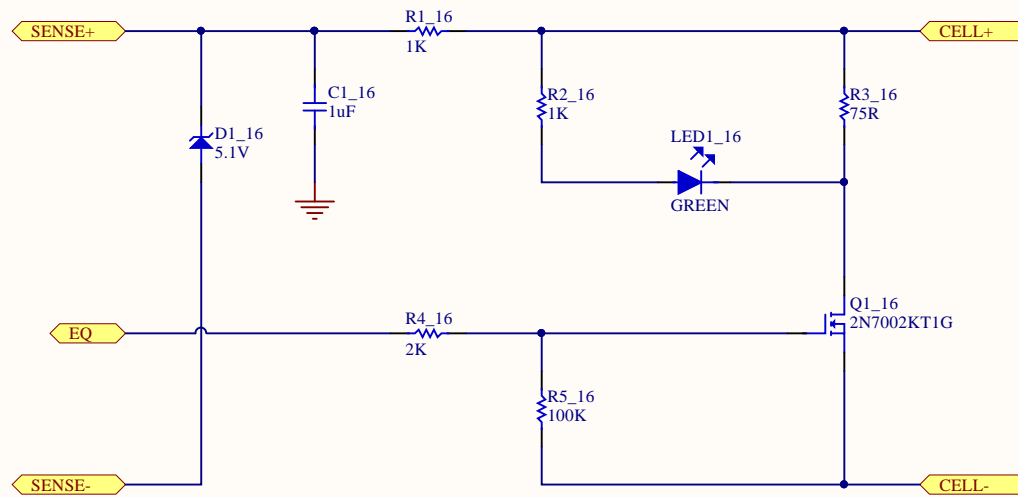
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BMS - AFE		
Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 4 of 8
File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



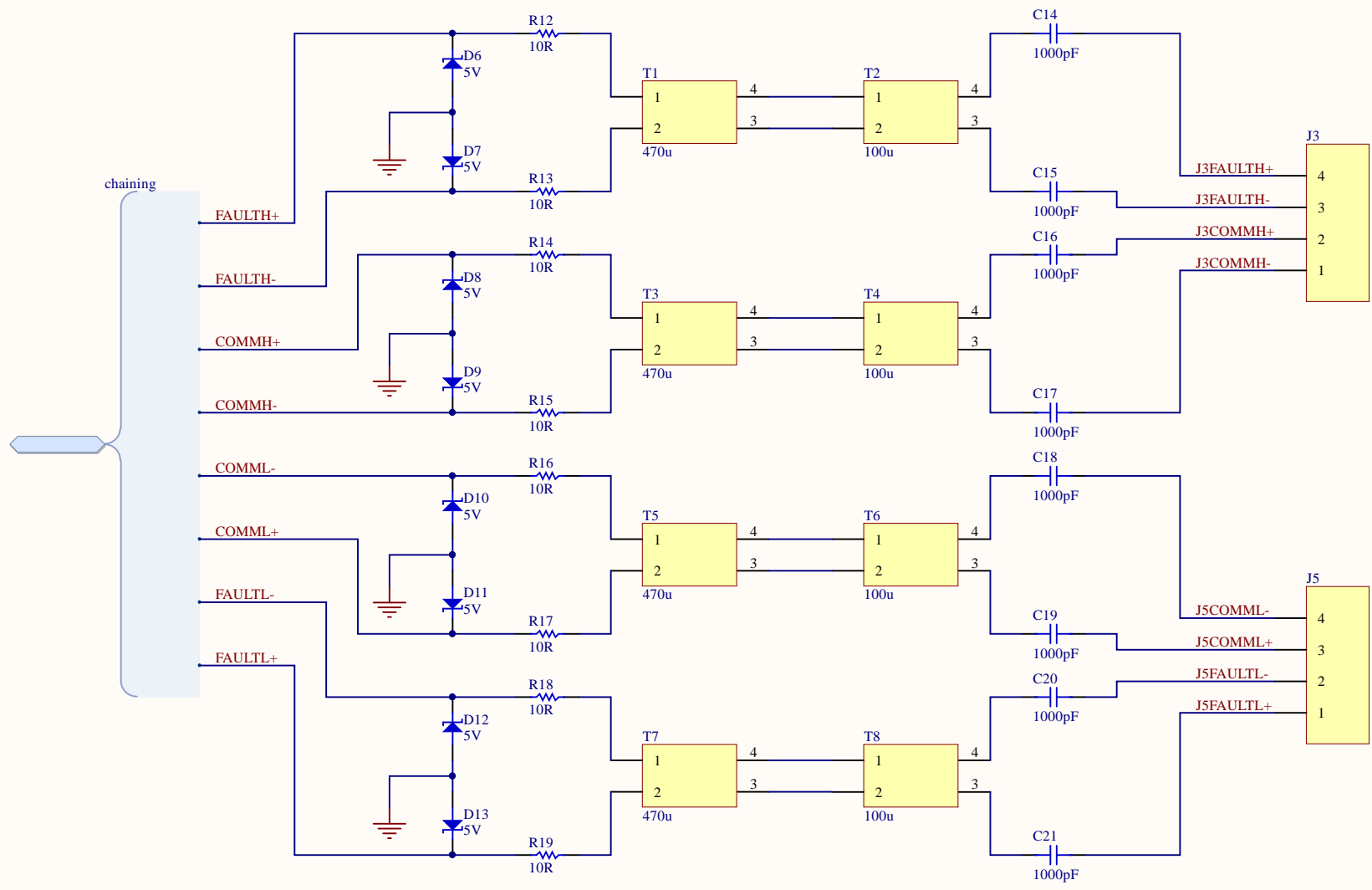
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BMS - AFE		
Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 4 of 8
File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



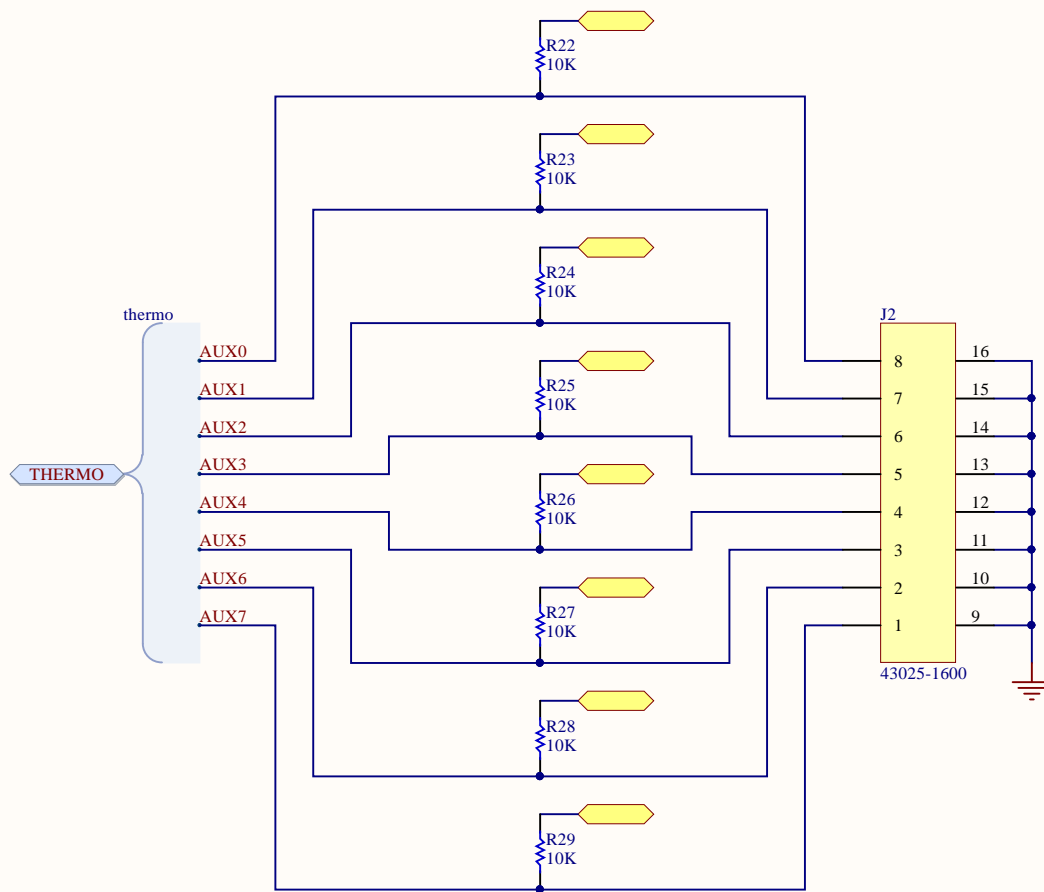
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BMS - AFE		
Size	Number	Revision
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Date:	2019-05-23	Sheet 4 of 8
File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



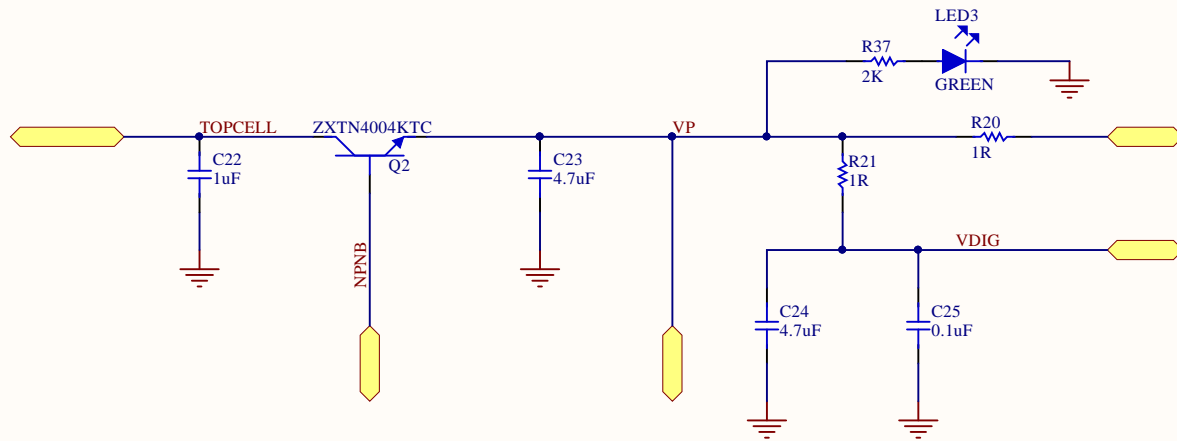
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Size	Number	Revision
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File:	C:\Users\...\VSENSE_EQ.SchDoc	Drawn By: Jarod Krane



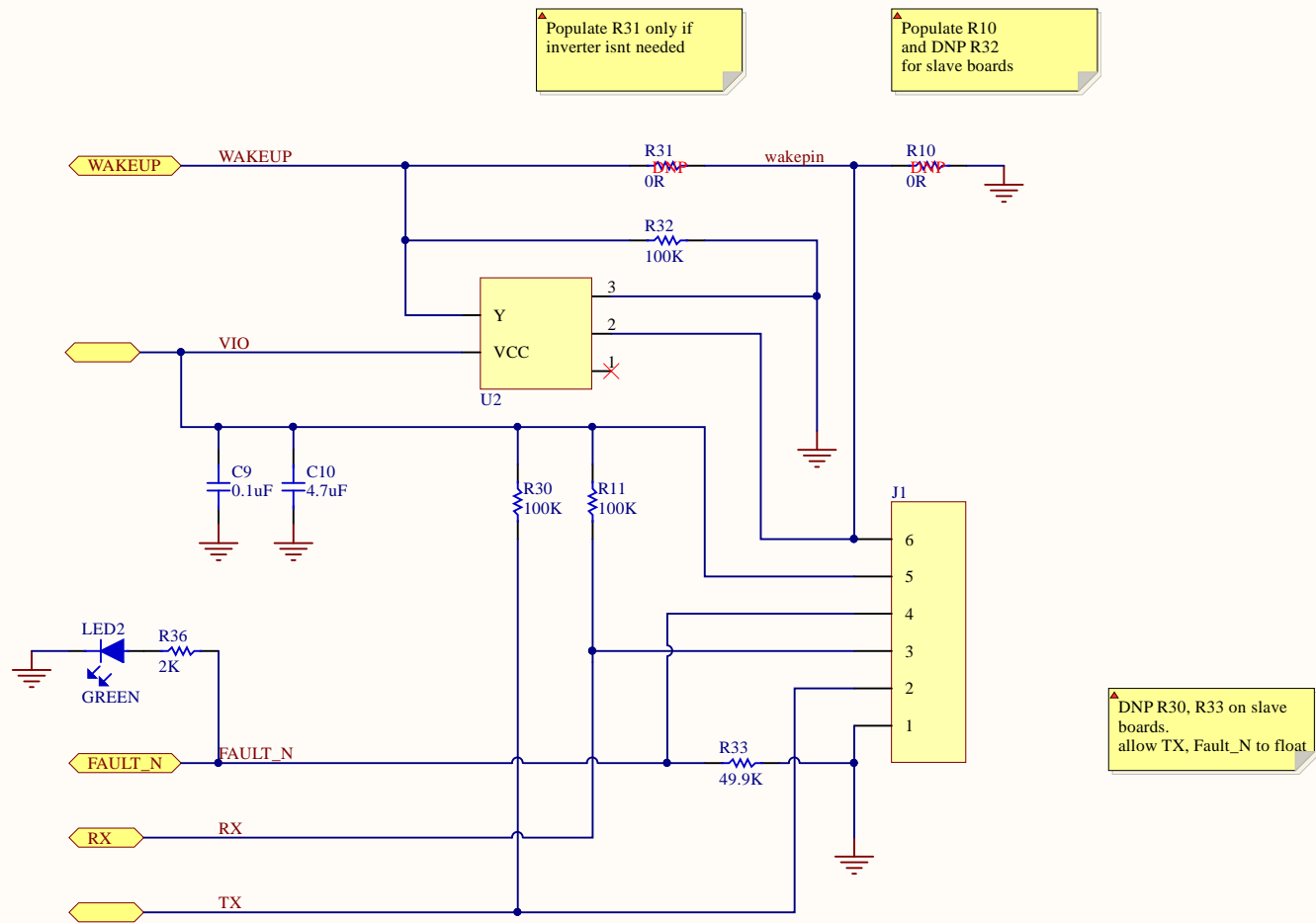
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BMS - AFE		
Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 5 of 8
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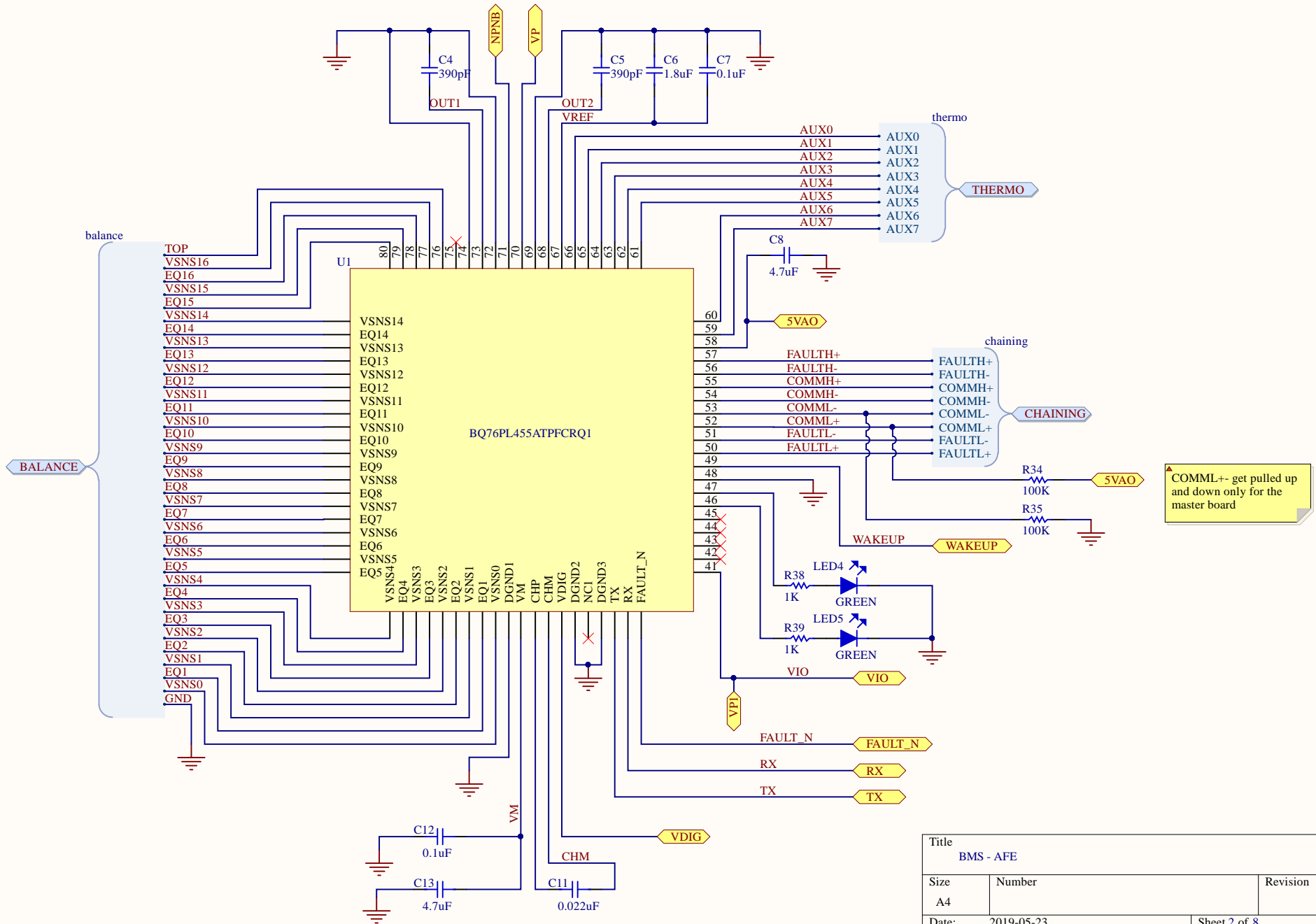
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BMS - AFE		
Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 6 of 8
File:	C:\Users\...\THERMO.SchDoc	Drawn By:Jarod Krane



Title BMS - AFE		
Size A4	Number	Revision
Date: 2019-05-23	Sheet 7 of 8	
File: C:\Users\...\NPN_CONNECTOR.SchDoc	Drawn By: Jarod Krane	

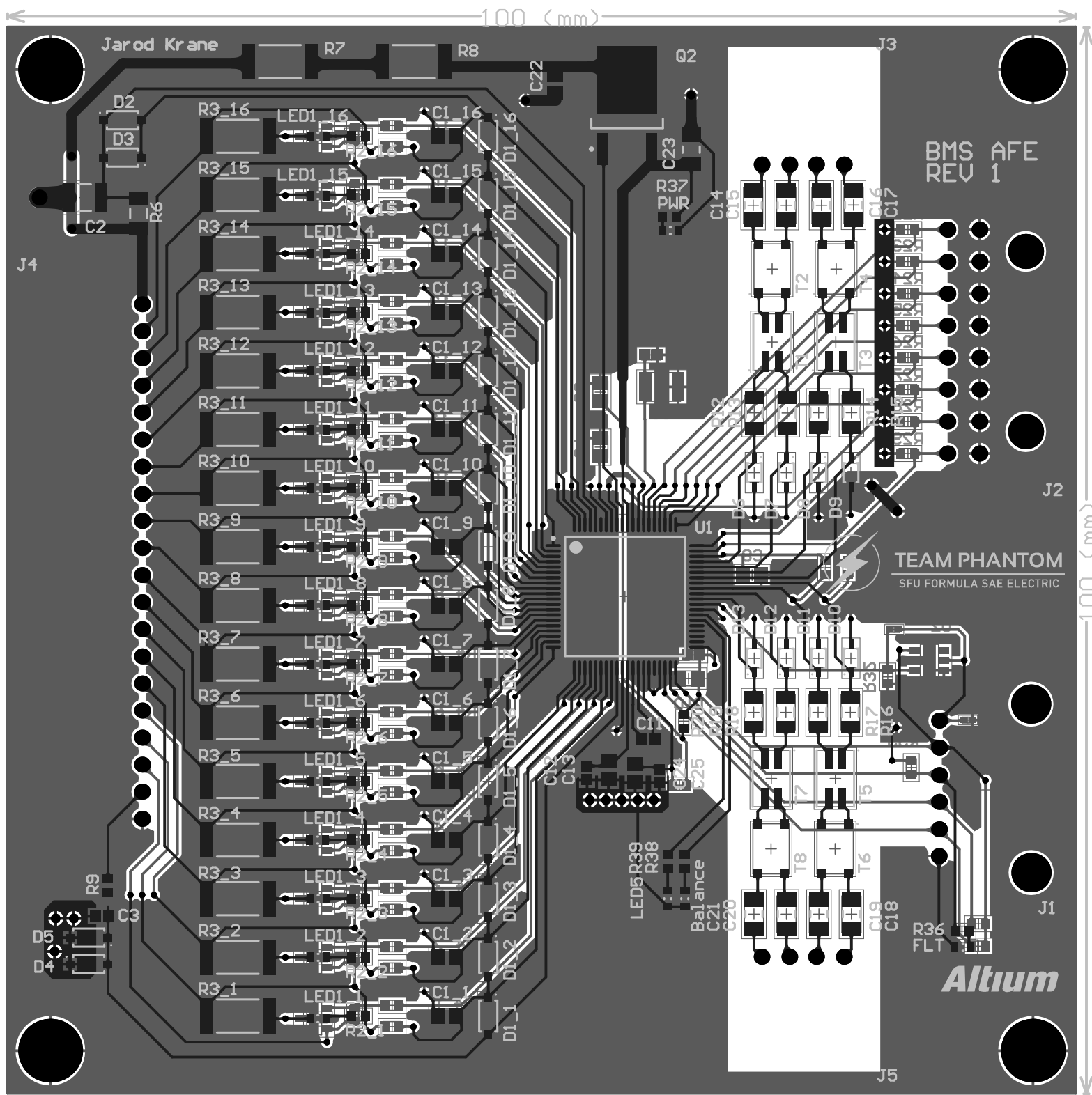


Title		
Serial connection		
Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 8 of 8
File:	C:\Users\...\Serial.SchDoc	Drawn By: Jarod Krane



COMML+- get pulled up and down only for the master board

Title		
BMS - AFE		
Size	Number	Revision
A4		
Date:	2019-05-23	Sheet 2 of 8
File:	C:\Users\...\BMS_rev2.SchDoc	Drawn By:Jarod Krane



Jarod Krane

100 (mm)

BMS AFE
REV 1

TEAM PHANTOM
SFU FORMULA SAE ELECTRIC

Altium

100 (mm)

J4

J2

J1

J5

R7 R8

J3

D2 D3

R3_16

R3_15

R3_14

R3_13

R3_12

R3_11

R3_10

R3_9

R3_8

R3_7

R3_6

R3_5

R3_4

R3_3

R3_2

R3_1

R3_1

R3_2

R3_3

R3_4

R3_5

R3_6

LED1_16

LED1_15

LED1_14

LED1_13

LED1_12

LED1_11

LED1_10

LED1_9

LED1_8

LED1_7

LED1_6

LED1_5

LED1_4

LED1_3

LED1_2

LED1_1

LED1_1

LED1_2

LED1_3

LED1_4

LED1_5

LED1_6

LED1_7

C1_16

C1_15

C1_14

C1_13

C1_12

C1_11

C1_10

C1_9

C1_8

C1_7

C1_6

C1_5

C1_4

C1_3

C1_2

C1_1

C1_1

C1_2

C1_3

C1_4

C1_5

C1_6

C1_7

D1_16

D1_15

D1_14

D1_13

D1_12

D1_11

D1_10

D1_9

D1_8

D1_7

D1_6

D1_5

D1_4

D1_3

D1_2

D1_1

D1_1

D1_2

D1_3

D1_4

D1_5

D1_6

D1_7

Q2

R37 PWR

U1

LED5R39

R38

Balance

C21

C20

R36 FLT

J5